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ABSTRACT

The largest departments of chemistry, education, and psychology in the United States were surveyed to determine what formal and informal structures they have in place for selecting, preparing, and supervising teaching assistants (TAs) for their teaching responsibilities. Responses were received from each of the 97 departments surveyed. All chemistry departments, 90.6% of education departments, and 90.3% of psychology departments surveyed used doctoral students as teaching assistants. Most chemistry departments (64.7%) required all graduate students to be TAs, while education (86.2%) and psychology departments (53.6%) primarily selected TAs through an application/competitive process. All chemistry departments, 75% of education departments and 71% of psychology departments surveyed had formal preparation programs. For all three types of departments, the class professor was most often depended on to be the sole supervisor (83.5% overall) for the TA. Appendices include the questionnaire and a list of schools studied in order of the size of the department. Included are 15 references. (Author/SW)

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TURNING SPECIALISTS INTO PROFESSORS:

THE PREPARATION OF GRADUATE STUDENTS FOR COLLEGE TEACHING

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ABSTRACT

This study surveyed the largest departments of chemistry, education, and psychology in the United States to determine what formal and informal structures they have in place for selecting, preparing, and supervising teaching assistants (t.a.'s) for their teaching responsibilities. Responses were received from each of the 97 departments surveyed. All chemistry departments, 90.6 percent of education departments and 90.3 percent of psychology departments surveyed use doctoral students as teaching assistants. Most chemistry departments (64.7%) require all graduate students to be a t.a.'s, while education (86.2%) and psychology departments (53.6%) primarily select t.a.'s through an application/competitive process. All chemistry departments, 75 percent of education departments and 71 percent of psycholgy departments surveyed have formal preparation programs. For all three types of departments, the class professor is most often depended on to be the sole supervisor (83.5% overall) for the t.a.

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Sheraton Inner Harbor Hotel in Baltimore, Maryland, November 21-24, 1987. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

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> If the professional preparation of doctors were as minimal as that of college teachers, the United States would have more funeral directors than lawyers.
>
> _Integrity in the College Curriculum: A Report to the Academic Community_, Association of American Colleges, 1985, p. 35

BACKGROUND

Not only is the professoriate a major career option for those with doctorates, but a large number of doctoral students are _already_ college teachers in their roles as teaching assistants (t.a.'s). The emphasis of graduate education, however, almost is exclusively on "development of substantive knowledge and research skills," according to the findings of the Association of American Colleges in its special 1985 report _Integrity in the College Curriculum_ (p. 35). There are structures, theories, and methods available which can make the

teaching/learning experience more successful for new instructors and their students. What is missing is the curriculum and process necessary to provide instruction on teaching methodology within the graduate education framework. Unfortunately, most introduction to college teaching is incidental or through on-the-job experience as a teaching assistant. Few beginning faculty members are provided with education in teaching methods in a manner comparable to their long, arduous exposure to research methods.

Richard Fraher wrote in The Art and Craft of Teaching (1984, pp. 116-117), part of the Harvard-Danforth Center for Teaching and Learning's efforts to upgrade teaching at Harvard, that:

> Professors are trained only as scholars and then thrust in front of the classroom to play the role of teacher...The assumption that knowledge of a subject implies the ability to teach in that field permeates American higher education, and one result is that our colleagues generally believe that the problems associated with teaching should disappear as the competent scholar eases past the initial nervousness... It is probably important for most of us to concede that we were not well trained as teachers while we were being prepared as scholars...It is less important in most cases for a teacher to perform impressively as a scholar than it is to facilitate the learning of students.

Research in the field of teaching in higher education has divided into two parts: studies of "good teaching" methods, and studies of "good teachers." These subjects, naturally, overlap a great deal. "Good teaching" methods have been gathered much more from the writings of individual "good teachers" than from research into student learning. Good teachers are identifed by colleagues, students, and by their own interests in promoting teaching methods they have found useful.

Given the body of knowledge available, it would seem effective to provide education for college teaching. There are four points in an academic career where such intervention might be appropriate: as part of all graduate programs; for graduate students selected as teaching assistants; for new faculty hires; or for all faculty. While it would be inefficient to require all graduate students to study educational methods, there are three important reasons why the best intervention level is at the teaching assistanship level.

First, there is less ego involvement in personal teaching ability at that time. Introduction of teaching instruction to active faculty has been hampered by the misperception by faculty members that the "craft of teaching" is not a topic for discussion. According to Cordes' 1982 study of teaching effectiveness, teaching methods are "often inseparably entwined with personality (and) a considerable vulnerability rides along with a teacher's philosophy of education" (p. 2). This is echoed by Reckford, "to write about how and why I teach seems like a public striptease" (1975, p. 11).

Second, intervention should occur as early as possible in the academic career. The recent study from the Center for Instructional Development at Syracuse University (Diamond & Gray, 1987) reported that of the graduate teaching assistants they surveyed, 75 percent plan to teach in colleges or universities when they complete their degrees (over 50 percent in every field except architecture, communications and law); in science and mathematics the figure was 67 percent; in education, 79 percent;

and in social sciences, 87 percent. Bowen and Schuster (1986) quoted the National Center for Educational Statistics as saying that 57 percent of all Ph.D.'s were working in academe in 1985.

Barker (1983, p. 109) stated:

> If the educational quality of an institution can be improved by older faculty changing their teaching styles, it is also important that new instuctors learn something about the principles of effective teaching at the onset of their careers. Assuming a beginning pedagogical age of twenty-five, new intructors have a teaching life of some eighty semesters ahead of them...I have also discovered from my talks with teaching assistants just how much they appreciate having a sense of direction and purpose in the classroom.

A large percentage of faculty begin their college teaching as teaching assistants. For instance, at Research I institutions during the seventies, 68 percent of physicists, 76 percent of mathematicians, and 87 percent of chemists had been teaching assistants when they were in graduate school, with comparable numbers at Research II and second and third tier universities (Drew, 1985).

Jules B. LaPidus, President of the Council of Graduate Schools, recently noted that:

> Efforts to train people to become teachers are few and are directed primarily toward teaching assistants. These activities usually are discipline based, and are extremely variable in adequacy, intensity, and quality across departments and institutions (pp. 3-4)....The teaching assistants experience in graduate school forms another part of the process and must be taken seriously as part of the development of faculty members (p.10).

The third, and most important, reason for targeting teaching assistants for training is the impact their abilities have on

undergraduate education. In fact, the first recommendation made by the National Institute of Education Study Group on the Conditions of Excellence in American Higher Education, in its 1985 report, Involvement in Learning, is that "College adminstrators should reallocate faculty and other institutional resources toward increased service to first- and second-year undergraduates" (p. 25). Yet, in the primary research institutions in this country, a large percentage of courses are taught by graduate teaching assistants. The Study Group stated as a corollary to its recommendation that "Department chairs in institutions employing graduate students as instructors should use them selectively and take measures to ensure that they are well prepared for their responsiblities" (p. 25).

One recent survey showed that graduate students teach a significant proportion of lower-division courses at major research institutions. For instance, at the University of California Berkeley and Davis campuses t.a.'s teach about 30 percent of the undergraduate classes (McMillen, 1986). Another study, conducted by B.A. Case, professor of mathematics at Florida State University, for the Mathematical Association of America, showed that 45 percent of classes and recitation groups in leading mathematics departments are taught by t.a.'s or part timers (McMillen, 1986).

Teaching assistants perform a wide range of services to undergraduates. The Syracuse study (Diamond & Gray, 1987) involved 1357 graduate teaching assistants at eight major research institutions (Oregon State, Stanford, Syracuse, Texas A & M, University of California Davis, U.C.L.A., University of

Nebraska, University of Tennessee), in 117 departments. Seven disciplines (biology, chemistry, economics, English, geology, history, mathematics) were 41 percent of the total sample. Their report shows that 31 percent of the surveyed t.a.'s were fully responsible for undergraduate classes; 35 percent worked only with a single faculty member; and 34 percent were part of a team. Their responsibilities included: grading, 97 percent of the surveyed t.a.s; office hours, 94 percent; preparation of tests, 72 percent; leading discussions, 71 percent; conducting review sessions, 69 percent; lecturing, 60 percent; advice and counseling, 59 percent; and supervising laboratories, 49 percent. Only 47 percent of the t.a.'s were doctoral students; 43 percent were masters candidates; and 10 percent were in other certification programs.

There can be a considerable difference of opinion between the viewpoint of faculty members and t.a.'s regarding the quality of preparation and supervision for the job. For instance, Charles Bonwell, Professor of History at Southeast Missouri State University, surveyed history department teaching assistants and their department chairs regarding adequacy of the t.a.'s work. The 650 t.a.'s said that training and supervision were inadequate, while their 130 history department chairs said the t.a.'s performance was "above average" (McMillen, 1986).

In the Syracuse study (Diamond & Gray, 1987), teaching assistants wanted additional preparation in the following areas: how to evaluate themselves as teacher, 72 percent; how to evaluate their course, 71 percent; instructional technology, 64

percent; lecturing techniques, 60 percent; coordinating class discussions, 55 percent; using media, 54 percent; developing writing skills, 54 percent; preparing tests, 53 percent; knowledge of available counseling sevices, 52 percent; time management, 52 percent; and counseling/advising skills, 50 percent. The t.a.'s reported that supervision varied by quality and quantity (even in same department), from supervisor to supervisor. The weakest supervision was reported in the traditional arts and sciences departments. Inadequate supervision was reported by 28 percent of the t.a.'s in the social sciences, 25 percent in science & math, and 17 percent in chemistry. Support programs were offered "by someone" to 74 percent of the t.a.'s; 48 percent were offered institutional support, 15 percent school support, and 31 percent departmental support. Approximately 65 percent of the t.a.'s participated in support programs of some type.

PURPOSE OF THE CURRENT STUDY

In an effort to determine the range and structure of current preparation of teaching assistants for their work, this study surveyed the largest (in terms of number of doctorates awarded) graduate departments of chemistry, psychology, and education in the United States. The largest schools were chosen because it was postulated that they would be the most likely to utilize their graduate students as teaching assistants.

This sample was wider ranging than prior surveys. It included both public (63, 64.9%) and private (34, 35.1%) schools from the following geographic locations:

	CHEMISTRY	EDUCATION	PSYCHOLOGY	TOTAL
NORTHEAST	6 (17.6%)	8 (25.0%)	10 (32.3%)	24 (24.7%)
MID-ATLANTIC	3 (8.8%)	3 (9.4%)	1 (3.2%)	7 (7.3%)
SOUTH	4 (11.8%)	7 (21.8%)	5 (16.1%)	16 (16.5%)
MIDWEST	9 (26.5%)	8 (25.0%)	5 (16.1%)	22 (22.7%)
WEST	12 (35.3%)	6 (18.8%)	10 (32.3%)	28 (28.8%)
TOTALS	34 (100%)	32 (100%)	31 (100%)	97 (100%)

METHODS

A questionnaire was prepared (Appendix A) and mailed to the department chairs in March, 1987. The list of departments (Appendix B) was prepared in a special computer run by Peterson's Guides, a publisher of guidebooks to colleges and graduate schools, based on information supplied to them by the schools of the number of doctoral degrees (of all types) awarded in 1985. It is possible that some large programs did not provide that information to Peterson's Guides and are, therefore, not included in the listing.

Data were coded and analyzed using SPSSx on the Claremont Graduate School VAX 11/780 mini computer. Frequencies were run on all relevant variables, as a whole data set and split by department.

RESULTS

Number of Responses

Responses were received from all 97 departments, either by mail or through a follow-up telephone call.

	BY MAIL	BY TELEPHONE	TOTAL
Chemistry	29 (85.3%)	5 (14.5%)	34
Education	24 (75.0%)	8 (25.0%)	32
Psychology	23 (74.2%)	8 (25.8%)	31

Number of Departments by Number of Doctoral Students in Each Department

	OVER 100 STUDENTS	51-100 STUDENTS
Chemistry	33 (97.1%)	1 (2.9%)
Education	31 (96.9%)	1 (3.1%)
Psychology	31 (100%)	

Number of Departments by Percentage of Graduates They Estimate Enter Professoriate

	100%	51%-99%	26%-50%	11%-25%	<11%	Unknown
Chemistry		1	11	15	4	3
Education		9	11	6	5	1
Psychology	2	7	3	8	10	1

Number of Departments Using Doctoral Students as Teaching Assistants

	YES	NO	TOTAL
Chemistry	34 (100%)	-	34 (100%)
Education	29 (90.6%)	3 (9.4%)	32 (100%)
Psychology	28 (90.3%)	3 (9.7%)	31 (100%)

Departments by Number of Active Teaching Assistants

		100	51-100	26-50	11-25	<11
Chemistry	n	8	17	9		
	%	23.5	50.0	26.5		
Education	n	5	7	10	5	2
	%	17.2	24.1	34.5	17.3	6.9
Psychology	n	3	7	6	7	5
	%	10.7	25.0	21.5	25.0	17.9

Departments by Average Number of Students Taught By Each T.A.

		100	51-100	26-50	11-25	<11	Unknown
Chemistry	n		9	12	13		
	%		26.5	35.3	38.2		
Education	n		3	13	12	1	
	%		10.4	44.8	41.4	3.4	
Psychology	n	1	5	11	5	3	3
	%	3.6	17.9	39.2	17.9	10.7	10.7

Selection of Teaching Assistants

Chemistry

SELECTION CRITERIA	NUMBER OF DEPARTMENTS (N = 34)	PERCENTAGE OF ALL DEPARTMENTS
Required by Department, plus some or all other criteria: Part of Graduate Program, Application/Competition, Financial Need of Student, Academic Excellence, Faculty Recommendation	13	38.3
Required by Department, only	9	26.5
	22	64.8
Part of Graduate Program, plus some or all other criteria: Financial Need of Student, Required by Department, Academic Excellence, Application/Competition	13	38.3
Part of Graduate Program, only	2	5.9
	15	44.2
Application/Competition, plus some or all other criteria: Part of Graduate Program, Financial Need of Student, Required by Department, Academic Excellence	11	32.4
Application/Competition, only	2	5.9
	13	38.3
Academic Excellence, plus some or all other criteria: Part of Graduate Program, Application/Competition, Financial Need of Student, Required by Department	11	32.4
Academic Excellence, only	1	2.9
	12	35.3
Financial Need of Student, plus some or all other criteria: Required by Department, Academic Excellence, Application/Competition, Part of Graduate Program, Faculty Recommendation	9	26.5

Education

SELECTION CRITERIA	NUMBER OF DEPARTMENTS (N = 29)	PERCENTAGE OF ALL DEPARTMENTS
Application/Competition, plus some or all other criteria: Financial Need of Student, Academic Excellence, Part of Graduate Program, Faculty Recommendation, Institutional Need, Previous Experience	18	62.1
Application/Competition, only	7	24.1
	25	86.2
Academic Excellence, plus some or all other criteria: Financial Need of Student, Part of Graduate Program, Application/Competition, Institutional Need, Previous Experience	9	31.0
Financial Need of Student, plus some or all other criteria: Academic Excellence, Part of Graduate Program, Institutional Need	8	27.6
Financial Need of Student, only	1	3.4
	9	31.0
Part of Graduate Program, plus some or all other criteria: Financial Need of Student, Academic Excellence, Application/Competition, Faculty Recommendation	4	13.8
Previous Experience, plus some or all other criteria: Academic Excellence, Application/Competition, Department Need	2	6.9

Psychology

SELECTION CRITERIA	NUMBER OF DEPARTMENTS (N = 28)	PERCENTAGE OF ALL DEPARTMENTS
Application/Competition, plus some or all other criteria: Financial Need of Student, Academic Excellence, Part of Graduate Program, Institutional Need	11	39.3
Application/Competition, only	4	14.3
	15	53.6
Academic Excellence, plus some or all other criteria: Financial Need of Student, Application/Competition, Part of Graduate Program	13	46.4
Academic Excellence, only	1	3.6
	14	50.0
Financial Need of Student, plus some or all other criteria: Required by Department, Academic Excellence, Previous Experience, Application/Competition, Part of Graduate Program	12	42.9
Financial Need of Student, only	1	3.6
	13	46.4
Part of Graduate Program, plus some or all other criteria: Required by Department, Financial Need of Student, Application/Competition, Academic Excellence, Institutional Need	6	21.4
Part of Graduate Program, only	1	3.6
	7	25.0
Required by Department, plus some or all other criteria: Financial Need of Student, Part of Graduate Program	2	7.1
Required by Department, only	1	3.6
	3	10.7
Previous Experience plus Department Need	1	3.6

Preparation of Teaching Assistants

Chemistry

All chemistry departments reported at least one type of formal preparation for teaching assistants. Most departments offer several types of formal programs.

	NUMBER OF DEPARTMENTS		
	BY DEPT STAFF	BY INST STAFF	BY BOTH
ONE DAY ORIENTATION	5	1	3
OVER ONE DAY ORIENTATION	14		10
REGULAR MEETINGS	20		2

The burden of informal preparation falls on the professor who teaches the class (in 64.7% of the departments) and the program advisor (20.6%).

Education

Only 75 percent of the education departments report formal training programs, with several offering more than one type of program.

	NUMBER OF DEPARTMENTS		
	BY DEPT STAFF	BY INST STAFF	BY BOTH
ONE DAY ORIENTATION	7	1	2
OVER ONE DAY ORIENTATION	4		2
REGULAR MEETINGS	11		

Informal preparation falls on the class professor (81.3%) and program advisor (28.1%) in education, as well as in chemistry.

Psychology

A similar number, 71 percent of psychology departments reported formal preparation for teaching assistants, and most offer more than one type.

	NUMBER OF DEPARTMENTS BY DEPT STAFF	BY INST STAFF	BY BOTH
ONE DAY ORIENTATION	6		4
OVER ONE DAY ORIENTATION	4		1
REGULAR MEETINGS	11	1	1

The class professor (83.9%) and program advisor (25.8%) also are the main sources of informal preparation in the psychology department.

Supervision of Teaching Assistants

Chemistry

The class professor supervises in all surveyed chemistry departments, is the sole supervisor in 44.1 percent of the chemistry departments, and co-supervises with the program advisor in 17.6 percent of the departments, and with a laboratory supervisor in 17.6 percent of the departments. The full breakdown is as follows:

	NUMBER OF DEPARTMENTS	PERCENT
Professor (Prof), only	15	44.2
Advisor (Adv), only	1	2.9
Prof + Adv	6	17.8
Prof + Department Designee	2	5.9
Prof + Laboratory Supervisor (Lab)	6	17.6
Prof + Formal Evaluation (Eval)	1	2.9
Prof + Adv + Undergraduate/Graduate Director	1	2.9
Prof + Lab + Experienced TA's (TA's)	1	2.9
Prof + TA's	1	2.9

Education

The class professor supervises in all surveyed education departments, as well, as sole supervisor in 34.6 percent of the departments, with the program advisor in 27.6 percent, and with the department chair in 13.9 percent.

The full distribution of supervision is as follows:

	NUMBER OF DEPARTMENTS	PERCENT
Professor (Prof), only	10	34.6
Department Chair (Chair), only	1	3.4
Prof + Program Advisor (Adv)	8	27.7
Prof + Departmental Designee (Desig)	1	3.4
Prof + Chair	4	13.9
Chair + Written Manual	1	3.4
Desig + Associate Dean	1	3.4
Prof + Adv + Chair	1	3.4
Prof + Adv + Desig	1	3.4
Prof + Chair + Formal Evaluation	1	3.4

Psychology

The class professor supervises in all psychology departments, and is the sole supervisor in 60.6 percent and with the program advisor in 21.4 percent of the departments. The distribution of supervision is as follows:

	NUMBER OF DEPARTMENTS	PERCENT
Professor (Prof), only	17	60.6
Departmental Designee (Desig), only	1	3.6
Prof + Program Advisor (Adv)	6	21.4
Prof + Department Chair (Chair)	1	3.6
Prof + Adv + Undergraduate/Graduate Director	1	3.6
Prof + Adv + Chair	1	3.6
Prof + Adv + Experienced TA's	1	3.6

CONCLUSIONS AND RECOMMENDATIONS

The most obvious observation from the data reported above is a dire need for more preparation for teaching assistants before and during their assignments. In spite of the many diverse attempts to provide teaching assistants with the knowledge and skills that they require, there is no systematic methodology or attempt at evaluation of those programs. The variety is not surprising, since each has been developed to meet a specific departmental or institutional need. However, it would seem to be time now to take a broader view of the process of developing college teaching abilities, particularly as that process relates to the education of teaching assistants.

The Syracuse study (Diamond & Gray, 1987) recommended the following procedures to improve the preparation and supervision of teaching assistants: survey t.a.'s to identify needs; provide a formal training/orientation program; improve faculty supervision and guidance; adjust the hours to under 20 per week; select teaching assistants more carefully in order to assure academic competency for assignment; inform t.a.'s at least four weeks before classes begin of their assignment and provide them with class syllabus, books, etc.; for international students, provide special language and other acculturation training; select faculty supervisors for discipline experience, teaching effectiveness, and willingness to supervise; and, especially in large research universities, reward teaching excellence at the institutional level so that teaching excellence is part of the

academic culture of the school.

While these recommendations are aimed at development of individual teaching assistantship programs, a more universal necessity is to look at the results of training programs on a national basis. It is vital to discover and pull together already existing models into a comprehensive typology for developing and assessing preparation programs for teaching assistants.

The Claremont Graduate School

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TEACHING ASSISTANTSHIP
QUICK SURVEY

How many doctoral students are registered in your department (at all stages of progress)?

[ ] over 100
[ ] 51-100
[ ] 26-50
[ ] 11-25
[ ] 10 or fewer

Approximately what percentage of your doctoral graduates enter the professoriate?

[ ] 100%
[ ] 51%-100%
[ ] 26%-50%
[ ] 11%-25%
[ ] 10% or fewer

Does your department use doctoral students as teaching assistants (TAs)?

[ ] NO
If **NO**, you do not need to complete the rest of this form. Please return the form as soon as possible. Thank you!

[ ] YES
If **YES**, please answer the following questions about your TA program.

1. How many TAs currently are active in your department?
[ ] over 100
[ ] 51-100
[ ] 26-50
[ ] 11-25
[ ] 10 or fewer

2. How are TAs selected for your department? CHECK ALL THAT APPLY.
[ ] required of all doctoral students
[ ] financial need of student
[ ] selected by institution, not department
[ ] part of academic program
[ ] academic excellence of student
[ ] student application/competition
[ ] other, describe:_____

3. On the average, how many students does each TA teach?
[ ] over 100
[ ] 51-100
[ ] 26-50
[ ] 11-25
[ ] 10 or fewer

A member of The Claremont Colleges Founded 1925

4. How are TAs prepared for their responsibilities? CHECK ALL THAT APPLY.

formal orientation session, one day or less, conducted by:
- [ ] department staff only
- [ ] institutional staff only
- [ ] both department & institutional staff

formal orientation session, more than one day, conducted by:
- [ ] department staff only
- [ ] institutional staff only
- [ ] both department & institutional staff

regularly scheduled class/meeting to address TA concerns, conducted by:
- [ ] department staff only
- [ ] institutional staff only
- [ ] both department & institutional staff

[ ] mentor professor "on-the-job"
[ ] program advisor
[ ] informal availability of resources such as teaching/learning center
[ ] not at all
[ ] other, describe:_____

5. How are TAs supervised in their responsibilities? CHECK ALL THAT APPLY.

[ ] mentor professor "on-the-job"
[ ] program advisor
[ ] other department staff, describe:_____
_____
[ ] other institutional staff, describe:_____
_____

THANK YOU FOR YOUR CONSIDERATION, TIME, & EFFORT!
PLEASE RETURN THIS FORM AS SOON AS POSSIBLE.

LAURIE STOKELY
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APPENDIX B

SCHOOLS INCLUDED IN THIS STUDY
IN ORDER OF SIZE OF DEPARTMENT

CHEMISTRY DEPARTMENTS
University of Illinois
University of California, Berkeley
Purdue University
M.I.T.
University of California, Los Angeles
California Institute of Technology
Pennsylvania State University
Ohio State University
Iowa State University
University of Wisconsin
Indiana University
University of California, Santa Barbara
University of South Carolina
Northwestern University
Princeton University
Stanford University
Texas A & M University
University of Florida
University of North Carolina
Cornell University
Duke University
University of Maryland
University of Pennsylvania
Michigan State University
University of Houston
University of Massachusetts
University of Pittsburgh
Arizona State University
Brown University
Colorado State University
University of Washington
Columbia University
University of California, San Diego
University of Colorado

EDUCATION DEPARTMENTS
Teachers College, Columbia
Temple University
University of Pittsburgh
University of Georgia
Rutgers
University of Maryland
Michigan State University
Boston University
Vanderbilt University
University of Alabama
University of Massachusetts

University of Southern California
Florida State University
Ohio State University
University of Wisconsin
Texas A & M University
University of Missouri
New York University
Southern Illinois University
Oklahoma State University
Harvard University
Brigham Young University
North Texas State University
Arizona State University
University of San Francisco
University of Illinois
University of Connecticut
University of Iowa
Fordham University
University of Florida
Virginia Polytechnic Institute
Georgia State University

PSYCHOLOGY DEPARTMENTS
U. S. International University
Yeshiva University
Hofstra University
California School of Professional Psychology, Los Angeles
University of Michigan
California School of Professional Psychology, Berkeley
City College, New York
Calfironia School of Professional Psychology, San Diego
Ohio State University
North Texas State University
University of Southern Mississippi
Massachusetts School of Professional Psychology
New York University
Rutgers
Teachers College, Columbia
University of Georgia
Wright Institute, Berkeley
Biola University
University of California, Los Angeles
University of Maryland
Nova University
University of South Florida
Michigan State University
University of Houston
Boston University
Bowling Green State University
Adelphi University
Fuller Theological Seminary
Southern Illinois University
State University of New York, Stony Brook
University of Tennessee

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